

Draft summary of February 29, 2012 meeting of the Science and TEK subcommittee of the NPLCC

The Science and Traditional Ecological Knowledge subcommittee (S-TEK) of the NPLCC held their first full meeting on February 29, 2012 in Portland, Oregon. Thirteen subcommittee members participated in person and 10 by phone/web. The meeting agenda and a list of attendees are included as appendices A and B. A few additional members are expected to be added to the S-TEK. A brief summary of the subcommittee's recommendations has been developed as a separate document and sent to the NPLCC Steering Committee for consideration. For completeness, it is included as Appendix C. This document briefly summarizes the meeting discussions and provides the background for those recommendations.

Morning: S-TEK Roles and responsibilities; review of past and ongoing efforts

The morning discussions focused on initial introductions of members, on developing a common understanding of the past work and future challenges of the NPLCC, and the role of the S-TEK in helping the Steering Committee develop science and information priorities. The subcommittee is charged with providing recommendations to the Steering Committee for short-term (FY12 areas of focus), preparing a 4-year science strategy, and annual work plans.

Copies of the presentations that were discussed are included as separate files referenced below.

1. Conceptual models and common ecological themes (Woodward). Key messages: For the NPLCC geographic area as a whole, the USGS developed preliminary conceptual models of key ecological processes in each of 5 major ecoregions, identifying valued resources, stressors, themes, and potential climate change impacts within each. The conceptual models may provide both a useful communication tool and a way to identify information needs at the ecosystem level.
Associated file: Conceptual_models_Sci-TEK.02-29-12.pdf
2. Tools and approaches for priority-setting (Jenni). *Key messages:* The challenge of prioritizing science and information needs for the NPLCC can be addressed using the concepts of DA/SDM as effective decision-support. Five steps were described. Each step will be implemented in abbreviated form for FY12 priorities,; and in more robust form for the development of a 4-year science strategy. This approach builds from concepts initiated by the Steering Committee.
Associated file: DA_intro_S-TEK.02-29-12.pdf
3. Adaptation framework for Pacific Coastal Rainforest (DellaSala). Key messages: A review was provided for an ongoing project addressing climate change impacts on Pacific Coastal Rainforests. The work is regional, covering the entire NPLCC region, and focuses on identifying high priority areas for conservation, based on current and projected biodiversity, rainforest intactness and condition, vegetation stability, focal species, and resilience to disruptions.
Associated file: Dellasala_S-TEK.02-29-12.pdf
4. Expert Workshop to Inform Climate Change Science Priorities in the NPLCC (Tillmann). *Key messages:* A report was provided on progress for key work being carried out by the National Wildlife Federation for the NPLCC. A series of 10 web-based focus groups and 2 in-person

expert workshops were convened to help identify critical information needed to support climate-relevant decision-making across the NPLCC. Emphases included identifying commonalities and differences across the NPLCC geography. Emerging themes are described in the slides.

Associated file: NWF_NPLCC- Phase II Early Results _S-TEK.02-29-12.pdf

5. Past and current NPLCC sponsored activities (Mahaffy). *Key messages:* In FY11, the NPLCC received proposals in response to the RFP for more than 11 times the amount of funding available. Most proposals were from other Federal Agencies or academia. 11 projects were funded, spanning a range of project type, geographies, etc. Findings will be presented as a series of monthly webinars, each featuring a report on one of these projects.

Associated file: NPLCC-FY11Project Overview_S-TEK.02-29-12.pdf

6. Priorities identified by other regional efforts (Mahaffy). *Key messages:* Within the NPLCC geography there are several other related, large regional efforts with goals of better understanding impacts of climate change. The NPLCC will continue to collaborate and coordinate with these efforts, to avoid duplication and maximize synergies. Slides list briefly some of the stated priorities of three of these other efforts.

Associated file: Priorities Other Regional Efforts_S-TEK.02-29-12.pdf

In addition to these presentations and discussions, the S-TEK also heard from Pat Gonzales-Rogers (Pacific Region Native American Liaison, U.S. Fish and Wildlife Service) about the unique obligations within the U.S. to work with Tribes on all issues affecting those Tribes and Tribal trusts. In particular, government-to-government consultation is necessary for certain types of decisions and it was emphasized that having Tribal participants in committees and subcommittees was encouraged but does not meet the need for government-to-government consultations. John Mankowski (NPLCC coordinator) mentioned that this issue is appropriate for the Steering Committee to consider.

Afternoon: Areas of emphasis for FY12

In the afternoon, the group turned to FY12 priorities and areas of focus. The group followed an abbreviated version of the decision support steps that will be used in developing the longer-term science strategy. Specifically, the group undertook the following:

1. Initial list of potential focus areas was developed by NPLCC staff. The S-TEK reviewed the list, discussed several items and made modifications, including deleting a few topics viewed as too specific/detailed, and adding several topics.
2. Based on previous work with the Steering Committee and with other LCCs, the facilitator proposed an initial set of evaluation criteria; the subcommittee reviewed, discussed, and modified those criteria.
3. The subcommittee used the criteria to evaluate one of the identified needs, and discussed the complexities of such an evaluation. Time did not allow continued evaluation of all the identified needs using the criteria, so instead the discussion of the various criteria was used to the extent relevant by individual members in the next step.

4. Each S-TEK subcommittee member identified what they thought the top 4 FY12 priorities from the modified list, and the list was tallied.
5. For each focus area judged important by a nine or more of the participating members, the subcommittee provided an indication of the methods that could be used to address those needs, and discussed (informally) their preferences.

The table below summarizes the results of several of these steps. The table rows show the 9 potential areas of focus for FY12 that resulted from the S-TEK discussions. During the discussion of the initial list, participants emphasized that they felt it was better to focus the limited funding available in FY12 on “foundational” work that would help build capacity for the NPLCC and strengthen the partnership, rather than on individual field-oriented science projects. Accordingly, they eliminated extensions of FY11 projects from the list of potential focus areas.

The S-TEK discussed the following set of potential criteria for evaluating FY 12 needs, and then used those criteria to guide a more detailed discussion of one of the potential focus areas which has previously been identified, qualitatively, as an area many participants were interested in supporting (Review of state of the science and identify information gaps for terrestrial habitats across the entire NPLCC region). The criteria used were:

- Decision-relevance
 - Decisions supported (checklist of decision types)
 - Outcomes of interest addressed (checklist)
 - Timing of information need
 - Impact of the work (scalability, degree used, etc)
- Importance of LCC involvement
 - Opportunity to build partnerships and connections
 - # of partners needing the information
 - Partners currently involved in information collection
- Portfolio balancing
 - What ecosystems?
 - What geographic/political regions? (esp. trans-boundary)
 - Timing of results (near-term vs. long term)

Appendix D contains a table with more detailed definitions of each of these criteria. In working through the illustrative evaluation, it became apparent that the evaluation criteria will need to be defined in more detail, and that it will be particularly challenging to define a set of useful and useable criteria that capture the decision-relevance of information. Similar criteria for prioritizing information needs over the longer term will be a subject of further discussion with the subcommittee.

The second column of the table below shows the total number of participants who ranked each of the nine topics as one of their top 4 focus areas. Those receiving the highest number of top 4 rankings were identified as the preliminary areas of focus for FY12 resources and are shown in bold.

Table. FY12 potential information needs, and an indication of how we might solicit work to address those needs.

Need	Number of S-TEK members ranking each as a “top 4” FY12 need/ focus area	Possible support mechanisms		
		Extend existing contract	Federal coop agree.	RFP
Tools for managing and communicating (existing) information				
<ul style="list-style-type: none"> • Data Management Platform (meta-data) 	14		X	X
<ul style="list-style-type: none"> • GIS maps geographical extent NPLCC – connect existing maps into one location, create new data layers where appropriate (land ownership, vegetation cover, elevation, hydrologic information/data, etc.) 	10		X	X
Information, information synthesis, how to use information				
<ul style="list-style-type: none"> • Review of state of the science and identify information gaps for terrestrial habitats (forest, subalpine, alpine, prairies?) across the entire NPLCC 	9	X		X
<ul style="list-style-type: none"> • ID key resources, climate stressors, adaptation plans for NP/NF in B.C. and/or OR (e.g., through expansion of the North Cascadia Adaptation Partnership) 	2		X	
<ul style="list-style-type: none"> • Explore/evaluate appropriate use of TEK within the LCC and to support natural resource management 	11			X
<ul style="list-style-type: none"> • Document/describe historic use of sites of cultural significance (esp. in areas at risk). 	6			
<ul style="list-style-type: none"> • Wildlife connectivity (e.g., via expansion of the Washington Wildlife Habitat Connectivity/Western Governors Association, funded FY11 GNLCC & NPLCC – expand into B.C., other) 	2			
<ul style="list-style-type: none"> • Increase understanding of CC tools and data that are actually used 	1			
Building and supporting connections between partners and with the NPLCC				
<ul style="list-style-type: none"> • Support Science/information sharing forums (e.g., day added to ESA conference in Aug. Portland, 3rd cross-boundary data sharing workshop (B.C.), WildLinks, PNW Science Conference, other ideas?) 	11	X		If over \$25K

Note: Green “x” is a current preference of how to pursue the work, but is subject to revision.

The closing discussion focused on defining the best approach or approaches that might be used for pursuing each of these focus areas. The current best estimate is that the NPLCC will have about \$350K to support science/ TEK projects in FY12. Three mechanisms are available for funding work: (1) issuance of a notification of funding and a request for proposals, (2) extension or modification of existing contracts, and (3) federal cooperative agreements.

S-TEK recommendations and actions related to each of the five FY12 focus areas identified in the table above are being considered by the NPLCC Steering Committee (see Appendix C)

Action Items

1. NPLCC staff and S-TEK Chair, with support from facilitator, to prepare recommendations from S-TEK for the Steering Committee meeting on March 15. Will circulate to subcommittee members for concurrence before submitting the Steering Committee for consideration. (Done 3/7)
2. NPLCC staff will send out doodle polls to all S-TEK members to schedule conference calls/web-ex and another in-person meeting.
3. Assuming Steering Committee approval of the five priorities on 3/15:
 - a. NPLCC staff to work with Tribal and First Nations representatives on the subcommittee to develop a statement of task / scope of work for an RFP addressing the question of the use of TEK to support natural resource management decisions. Subcommittee will review and approve text on March call. (Process initiated by Frank Lake, 3/7)
 - b. NPLCC staff to work with NWF and FWS contracting to extend NWF work to address terrestrial habitats. Will prioritize expert workshops over the review reports in order to generate information as soon as possible for establishing science priorities. Discussions on scope have been initiated. If SC approves, intend to have contract extension in place by 4/1
 - c. NPLCC staff will work with a technical workgroup consisting of volunteers from the USFWS, USEPA, and possibly other agencies/organizations. They will define NPLCC needs for a data management platform and will explore the existing systems in use by the GNLCC, the CSCs, and any other relevant groups. They will make a recommendation to the S-TEK and the Steering Committee. S-TEK decision to be made on April call; Steering Committee review in May.
 - d. A technical workgroup will be formed to more clearly scope GIS mapping needs, determine priority data layers, and determine whether the work should be pursued through a federal cooperative agreement or an RFP. NPLCC staff will seek volunteers for the technical workgroup in the next few weeks; group to make recommendations to the S-TEK on the April call; Steering Committee review in May.
 - e. NPLCC staff to summarize the various science and information forums supported by the NPLCC in FY11 and draft an initial list of possible forums for FY12 support. The S-TEK will review, discuss, and modify this list during their March call, and will finalize a list for

recommendation to the Steering Committee on their April call. Steering Committee will review the list in May.

Appendix A. Agenda for February 29, 2012 meeting of the NPLCC Science & TEK Subcommittee

Time: 8:30 AM to 3:30 PM

Location: U.S. Fish and Wildlife Service Region 1 Office, Conference Room C, 911 NE 11th St., Portland, OR 97232

Goals: (1) Develop a joint understanding of the roles and responsibilities of the Science and TEK subcommittee and the current “state of the science” in the NPLCC, (2) Begin process of prioritizing information needs for FY12 actions, including decision on what topics, if any, to focus on for an RFP, and (3) agree on schedule of next steps.

- 8:30 am – 9:15 Welcome & Introduction (Frank Shipley, USGS)
& Round-table introductions (All)
- 9:15 – 9:45 Overview of conceptual models and common ecological themes in the NPLCC (Andrea Woodward, USGS)
- 9:45 – 10:15 Tools and approaches for priority setting; review of previous Steering Committee Framing Workshop results (Karen Jenni, Insight Decisions LLC)
- 10:15 - 10:30 Break
- 10:30 – 11:30 Review of state-of-science in NPLCC
- Review of National Wildlife Federation work (Patricia Tillman, NWF)
 - Yale Framework Rapid Assessment: Adaptation Blueprint for Pacific Coastal Rainforest (Dominick DellaSala, GEOS Institute)
 - Review of past and current (science) activities sponsored by the NPLCC (Mary Mahaffy, NPLCC)
- 11:30 - 11:45 Priorities identified by other regional efforts (Mary Mahaffy, NPLCC)
- NW and AK CSC
 - NOAA RISAs
 - Alaska Coastal Rainforest Center
- 11:45 – 12:00 Introduction to potential areas of focus for FY12 resources (Mary Mahaffy, NPLCC).
- 12:00 – 12:45 Lunch break
- 12:45 – 1:00 Traditional Ecological Knowledge: Roles, opportunities, and challenges (Kathleen Sloan, Yurok Tribe)
- 1:00 – 2:15 Discussion: Potential FY12 focus areas and information needs (All, facilitated)
- 2:15 – 2:30 Break
- 2:30 – 3:00 Continued discussion: potential approaches for meeting information needs, especially those that might be the target of an RFP. (All, facilitated)
- 3:00 – 3:20 Develop subcommittee recommendations to SC, including rationale (Facilitated discussion)
- 3:20 – 3:30 Next steps, set dates for next meetings (Frank Shipley, USGS)

Appendix B. S/TEK subcommittee membership and attendance at meeting

Name	Agency	Feb 29 2012 meeting	
		In person	Phone
Subcommittee members			
Frank Shipley (Chair)	USGS	x	
Lyman Thorsteinson	USGS		x
Phil Van Mantgem	USGS		
Andrea Woodward	USGS	x	
Keith Hatch	BIA	x	
Bruce Duncan	EPA		
Brendan Moynahan	NPS		
Chris Lauver	NPS	x	
Kathryn Boyer	NRCS		
Peter Kiffney	NOAA		x
John Laurence	USFS	Were unable to attend, but met with NPLCC staff to share their perspectives prior to the meeting	
Marc Kramer	USFS		
Frank Lake	USFS		x
Bill Hanson	USFWS	x	
Steve Morey	USFWS	x	
Charlie Chamberlain	USFWS		
Tasha Sargent	CWS and PCJV		
Madeline Maley	BC Ministry FLNR	x	
Tim Quinn	Washington DFW		x
Sue Rodman	Alaska DFG		x
Karyn Gear	CA Coastal Conservancy		x
Whitney Albrecht	California DFG		x
Kathleen Sloan	Yurok Tribe		x
Mike Goldstein	ACRC	x	
Bob Altman	PCJV - U.S./ American Bird Conservatory	x	
Mark Petri	PCJV - U.S. / Ducks Unlimited		
Dan Siemann	National Wildlife Federation	x	
Jennie Hoffman	EcoAdapt	x	
Dominick DellaSala	Geos Institute	x	
Susan Schlosser/HBI	Humboldt Bay Initiative/Sea Grant		
Kathie Dello	CIRC (NOAA RISA)/OSU	x	
Durelle Smith	USGS		x
Additional participants			
Patricia Tillmann	NWF - presenter	x	
Joe Hostler	Yurok Tribe		x
Stephen Zylstra	FWS	X	
Pat Gonzales-Rogers	FWS		
Mary Mahaffy	NPLCC Science coordinator	x	
John Mankowski	NPLCC Coordinator	x	
Karen Jenni	Insight Decisions, LLC	x	

Appendix C. S-TEK recommendations (sent to the NPLCC Steering Committee for discussion during their March 15, 2012 meeting)

**North Pacific Landscape Conservation Cooperative
Science and Traditional Ecological Knowledge Subcommittee Recommendations
FY12 Near-term Science Funding Priorities**

7 March 2012

The Science and Traditional Ecological Knowledge Subcommittee (S-TEK) of the North Pacific Landscape Conservation Cooperative (NPLCC) convened its first meeting on 29 February, 2012. In response to guidance from the Steering Committee, the S-TEK identified five priorities for FY 2012 NPLCC science funding. Approximately \$350K is expected to be provided by the U.S. Fish and Wildlife Service (FWS) for NPLCC science support.

Because FY12 science funding is limited, the S-TEK prioritized actions that would help the NPLCC build and implement a 4-year science plan. Of particular interest was obtaining background information and identifying key gaps that would help with identification of strategic priorities; establishing a framework for sharing data; establishing base data important for working across institutional, state and international boundaries; and sharing science and building partnerships. The NPLCC has committed to providing Tribes and First Nations the opportunity to incorporate TEK into the science planning if desired. At this time, how and if that will be undertaken has not been determined so exploring potential opportunities was a priority. All identified priorities are consistent with the mission and goals of the NPLCC.

S-TEK Recommendations

The S-TEK recommends five different actions/activities for funding in FY12. At this time, the S-TEK is seeking approval by the Steering Committee on these five priorities. Specific actions for each priority and requested approval are described as follows:

1. Science/Information Priorities for Terrestrial Habitats (Advances NPLCC Goals 1, 3, 5):

NPLCC staff should work with the National Wildlife Federation (NWF) and FWS contracting to pursue extension of ongoing efforts (“marine and coastal,” and “aquatic and riparian” projects) to include a similar initiative to review state of the science and identify information gaps for terrestrial habitats across the entire NPLCC. NWF results so far are very relevant to LCC needs and have been well received by NPLCC partners. The addition of terrestrial ecosystems would result in complete coverage of climate-related science for NPLCC ecosystems. Convening expert panel discussions and holding expert workshops would occur at the beginning to facilitate incorporating expert feedback into the science plan. This project should be initiated immediately to inform the science planning process now underway. Delaying this action will impact the completion of a draft science plan in August, 2012.

RECOMMENDED ACTION: Approve extension of existing NWF contract with FWS to include full coverage of terrestrial ecosystems within the NPLCC and landscape linkages with aquatic ecosystems – the cost should not exceed \$90K in FY 2012.

2. Traditional Ecological Knowledge (Advances NPLCC Goals 4, 6, 7): The NPLCC should explore appropriate and respectful integration of TEK for future support of natural and cultural resource conservation and sustainable management. NPLCC staff should work with Tribes and First Nations to scope this need in sufficient detail to develop and issue a request for proposals (RFP). The work will help scope how the NPLCC can include support of TEK and incorporate TEK in its current and future efforts to support partner decision-making and how TEK can be incorporated into studies that address tribal and

First Nations needs as they relate to climate change. RECOMMENDED ACTION: Approve development and release of a contracting “notification of funding” to competitively solicit potential projects to evaluate integration of TEK by the NPLCC. Specific project(s) and funding level to be determined after review of proposals and recommendations will be made to the Steering Committee.

3. GIS mapping (Advances NPLCC Goals 2, 4, 5): To facilitate transboundary efforts (across states and international) existing GIS data coverages need to be connected and where possible made consistent across the LCC geography. Gaps in needed data should be identified. This full scope of GIS mapping likely cannot be completely addressed in FY 2012, but the work should be scoped and initiated this year. The S-TEK should oversee scoping of this need to identify: kinds and availability of existing GIS data; potential for data compatibility and integration for LCC-wide and sub-regional analyses; data gaps suggesting needs for new coverages; and relative priorities for coverages such as land ownership, vegetation cover, elevation, hydrologic information/data, etc. RECOMMENDED ACTION: Approve development and release of a contracting “notification of funding” to competitively solicit potential GIS mapping projects or scope directing funding to an eligible agency if needed skills and capacity are available. The S-TEK subcommittee will make recommendation to the SC for specific project(s) after completion of scoping or receipt of proposals.

4. Data Management Platform (Advances NPLCC Goals 1, 2, 5, 6): Acquiring a shared data and information platform to accumulate and deliver foundational data, conduct data gap assessments and provide a product repository and tracking mechanisms is essential for the NPLCC to facilitate partnering and efficiencies. Completion of this action is also a performance measure used by the Department of Interior that should be met in FY 2012. The S-TEK will convene a working group to evaluate the specific needs of the NPLCC to be served by the platform and review existing data management platform options. Existing platforms, such as those used by the Great Northern LCC and the Climate Science Centers, will be explored and a competitive process for development of a new platform will likely not be needed. A recommendation will be made to the Steering Committee when these actions are completed. RECOMMENDED ACTION: Approve data management platform development/acquisition as a priority for FY 12 funding. A recommendation for a specific tool will be brought to the Steering Committee in time for consideration for FY12 funding.

5. Science and Information Sharing Workshops (Advances NPLCC Goals 1, 2, 4, 5, 7): The NPLCC should continue to support scientific collaboration and information sharing as a foundation for science-based resource management. This work is needed to continue to build partnerships and support strategic planning to be completed in 2012. An RFP competition is not anticipated to fulfill this need. RECOMMENDED ACTION: Approve the support of science and information sharing workshops as a priority for FY 12 funding. The S-TEK will make specific recommendations for what forums to support at a later date.

Appendix D. Prioritization criteria “checklist”

	Identify information gaps - terrestrial	Data management platform	GIS maps	Explore appropriate and respectful use of TEK	Support science & information sharing forums
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Decision relevance

What decisions/decision types would this information potentially support?

Decisions directly affecting natural resources E.g., Mitigation, restoration; Land & water use; Land, water, and species management; Cultural & historic resource mgmt	indirect				
Decisions affecting focus & resource allocation E.g.. Agency/entity priorities Where, what, and how to monitor Education and outreach Regulatory Private investment and development	indirect				
NPLCC decisions E.g., About info., science & TEK priorities About education/outreach	directly				

Would information improving understanding of the impacts of climate change on...

Habitat quality	x				
Species population health	x				
Ecosystem function and services	x				
Cultural resources					
Water quality and availability					
Economic impacts					
Local/regional quality of life					

How important is it to begin this information collection in FY12?

Info. Is critical to several of the decision types identified above; absent the information, important decisions will have to be delayed	x				
Capacity building opportunity: information and/or associated tool is expected to be useful to the partnership	x				
There is a unique opportunity to collect this information now, which may not be available later					
Information would be useful but is not critical to near-term decisions					

LCC involvement

What NPLCC partners would use this information directly to support their decision-making?

Information is relevant to the broad suite of LCC partners	x				
Information is relevant to the decisions of some (3-5) partners					
Information is relevant to the decisions of one partner					
Information is not relevant to partner decisions					

Are any NPLCC partners currently collecting related information?

No one is currently collecting this information					
Multiple partners are collecting similar or related information, and opportunity exists to increase coordination and sharing of the info	x				
A single partner has collected related information and opportunity exists to build from those efforts					

Portfolio balancing

Is the information relevant to any of the following?

Marine ecosystems					
Freshwater ecosystems					
Forest ecosystems	x				
Subalpine ecosystems	x				
Alpine ecosystems	x				

Tribal / First Nations	x				
Alaska	x				
British Columbia	x				
Washington	x				
Oregon	x				
California	x				